

Pre-AP Geometry Date_____ 4.1 Assignment
Triangles and Angles (pp 194-197)
Omit 9, 11 & 14, 29, 30

1. What is your name?

Classify the triangle by its angles and by its sides.

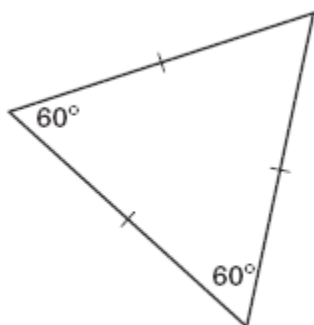
2.



3.



4.



Sketch the following triangles, if possible. If not possible, state so.

5. A right isosceles triangle.

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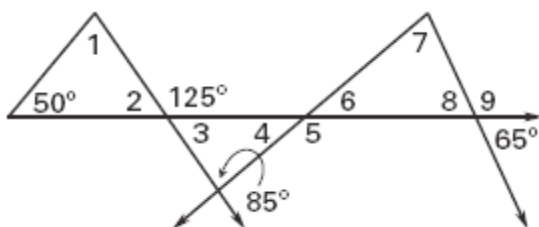
Sketch the following triangles, if possible. If not possible, state so.

6. An acute equilateral triangle.

7. An obtuse scalene triangle.

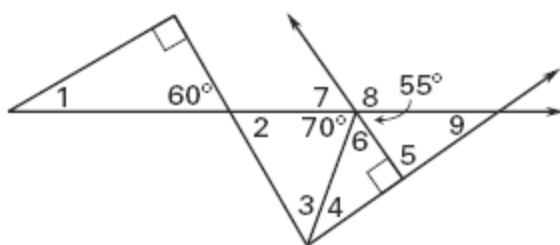
8. A right obtuse triangle.

9. Find the measure of the numbered angle.



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10. Find the measure of the numbered angle.



The variable expressions represent the angle measures of a triangle. Find the measure of each angle. Then classify the triangle by its angles.

$$m\angle A = x^\circ$$

$$m\angle A = (3x - 17)^\circ$$

11. $m\angle B = 2x^\circ$

12. $m\angle B = (x + 40)^\circ$

$$m\angle C = 3x^\circ$$

$$m\angle C = (2x - 5)^\circ$$

$$m\angle A = 2x^\circ$$

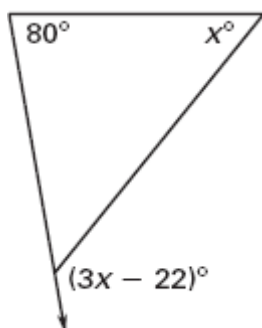
13. $m\angle B = x^\circ$

$$m\angle C = (x - 20)^\circ$$

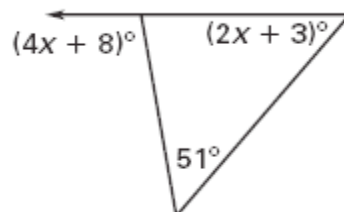
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Find the measure of the exterior angle shown.

14.

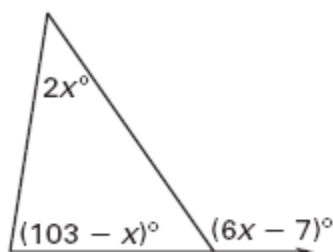


15.



x

16.



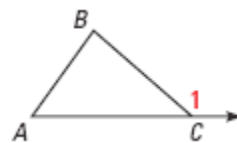
17. In $\triangle ABC$, $m\angle A = 42^\circ$. $m\angle B$ is 8 less than twice $m\angle A$. What the measure of the exterior angle at vertex C?

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18. Fill in the missing steps in the two-column proof of the Exterior Angle Theorem.

Given: $\angle 1$ is an exterior angle of $\triangle ABC$.

Prove: $m\angle 1 = m\angle A + m\angle B$



Statement	Reason
$\angle 1$ is an exterior angle of $\triangle ABC$.	
$\angle ACB$ & $\angle 1$ are a linear pair.	Definition of exterior angle.
$m\angle ACB + m\angle 1 = 180^\circ$	
	Triangle Sum Theorem.
$m\angle ACB + m\angle 1 = m\angle A + m\angle B + m\angle ACB$	
$m\angle 1 = m\angle A + m\angle B$	

19. Write a two column proof of “The acute angles of a right triangle are complementary.”

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Multiple Choice.

20. _____ The lengths of the two legs of an isosceles triangles are represented by the expressions $(2x - 5)$ and $(x + 7)$. The perimeter of the triangle is 50 cm. Find the length of the base of the triangle.

- A. 11 cm
- B. 12 cm
- C. 19 cm
- D. 26 cm
- E. 32 cm

21. _____ Which terms can be used to describe a triangle with two 45° interior angles?

- A. Acute
- B. Equilateral
- C. Obtuse
- D. Right
- E. Scalene

Review.

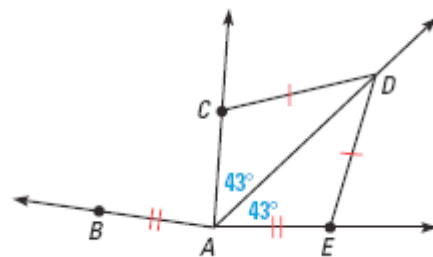
Use the figure to determine whether the statement is true or false. (Chapter 1 Section 5)

22. _____ $\angle CAD \cong \angle EAD$

23. _____ $m\angle CAD + m\angle EAB = 86^\circ$

24. _____ $\overline{CD} \cong \overline{AC}$

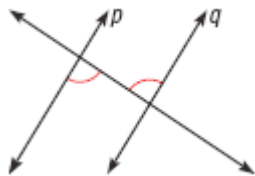
25. _____ \overline{AD} bisects $\angle CAE$.



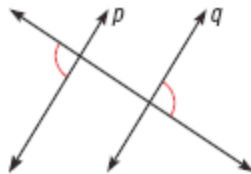
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Is it possible to prove that lines p and q are parallel? If so, state the postulate or theorem you would use. (Chapter 3 Section 4)

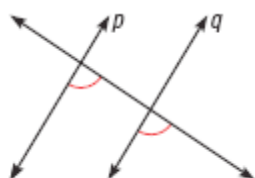
26.



27.



28.



Write an equation of the line that passes through the given point P and has the given slope. (Chapter 3 Section 6)

29. $P(8, 3), m = -\frac{3}{2}$

30. $P(-3, -5), m = -1$

31. $P(-2, -3), m = -\frac{7}{2}$

32. $P(-6, -4), m = -\frac{1}{3}$